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ABSTRACT

This paper describes a project that evaluated World Wide Web resources for language teaching and learning. First, issues of quality of Web resources, the need for an evaluation procedures, and the difficulties of implementing such procedures are discussed. The development of criteria on which to base such an evaluation is then outlined. Criteria discussed include: quality and usefulness of the material; coverage; user-friendliness; motivation; promotion of active learning; and provision of feedback. Procedures and technical features of the evaluation model developed are described. The resulting system was used by 12 college-level Spanish students to evaluate seven Spanish language Websites; the results are summarized. The Website evaluation questionnaire and instructions for its use are appended. (Contains 10 references.) (Author/MSE)

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Ewebuation

Joan-Tomás Pujolá

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FL 025 395

E*WEB*UATION

Joan-Tomàs Pujolà (IALS)[1]

Abstract

This paper describes a project which has the objective of evaluating Web resources for language learning. Issues of quality of Web resources, the need for an evaluation procedure and the difficulties in implementing it are discussed first. The development of criteria on which to base such an evaluation is then outlined, followed by a description of its implementation on a Web page which indexes Spanish resources.

1. Introduction

Web resources for language learning/teaching have started to proliferate at an extraordinary rate. Some of these resources are specifically designed for language learning or teaching, e.g. tutorials, reading comprehension exercises, grammar references, dictionaries etc. Others are seen as resources for language learning/teaching exploitation, such as newspapers, radio stations, virtual museums, tourist information centres, etc. Most language learning Web sites at universities, language centres or international language organisations provide Web pages with links to these Web resources. Their webmasters index all these sites under different headings and sub-headings according to different languages and/or topics, e.g. grammar, media, culture, etc. Thus, these 'collection-of-links' pages are seen as launch pads to other sites on the Web, as they bring together different types of resources which can be accessed from one site.

A collection of links is one way of concentrating the power of the Web as a teaching/learning aid by centralising resources which might best address the diversity of learning needs which our students may have. At the same time it helps learners and teachers in their Web browsing, focusing their attention on useful resources without wasting too much time. Therefore, **classification** of Web resources allows for ease of reference and readiness of access, and helps indirectly to integrate the Web into the language curriculum.

Though classification is essential, it is not in itself sufficient. It is true that the simple fact of selecting sites is an unconscious way of evaluating since we try to choose what we think can be of value for our own learners to be included on our respective Web pages. However, to date, on most of the Web pages which collect links to language-specific Web resources, there is no advice on the quality and usefulness of accessing the links provided. At most, they provide a summary of what one can find in following a link. What we propose here is a way of evaluating language-learning Web sites in a systematic and explicit way in order to enhance their pedagogical value.

The Web has a lot to offer, but not all sources are equally valuable or even reliable. Most of the language resources on the Web are generally unfiltered, unlike most print materials which have been evaluated by an editorial team. A need, therefore, exists for the development of an **evaluation** procedure that will assist learners and teachers to assess the value of language learning/teaching Web sites and for pedagogical and technical criteria to guide their future designs.

A project, called Ewe*b*uation, was established at the Institute for Applied Language Studies, University of Edinburgh, to develop such an evaluation procedure and to put it into practice using a Web page indexing Spanish language learning resources. As a consequence, a rating system has been developed to provide information which guides our learners in understanding the limitations or advantages of following a link. This rating system is in the form of stars placed next to a link. The user can click the star(s) and then see a detailed description of the evaluation results for that particular Web site.

2. Preliminary considerations

There are already services on the Web that evaluate and rate certain sites. Symbols and logos at the bottom of homepages are beginning to spring up saying "awarded 3 stars by Magellan", "Top 5% of the Web", etc. However, this is of limited value since most of the time we do not know the criteria they follow, and even when stated these criteria do not differentiate any subject domain or audience. To provide more valuable rating systems we should consider the context and focus on specific subjects, in our case CALL. All-purpose rating systems only produce a perceived value which in essence means nothing. Some search engines, however, include review sections by subject specialists in various areas of expertise, but their implementation of the evaluations is frequently superficial, subjective or biased.

The problems of low quality and credibility of Web resources, and the need for coherent evaluation procedures, have already been suggested by several librarians (Alexander & Tate, 1997; Tillman, 1997; Grassian, 1997) and by some educators (Schrock 1996; Kirk 1996; Wilkinson *et al.* 1997) who are trying to develop sets of criteria and evaluation surveys which will help learners and teachers to critically evaluate information on the Web. Ewe*b*uation is in line with these studies but specifically addressed to language learning.

Ewe*b*uation should be understood here as formative evaluation (Rea-Dickins & Germaine, 1992:26), i.e. intended to identify strengths and weaknesses of language learning material on the Web. Such evaluation allows for raising awareness of the learning process in a formal way and thus for developing the evaluators' critical thinking. This is an important skill to be developed due to the vast and varied information available on the Web.

At present, there are still limitations on interaction using the Web for language learning. Bush (1996) states that the traditional HTML model is "limited in its ability to provide such simple interactions as answer judging as we often see in interactive material. This click and branch methodology is fine for accessing reference materials but is limited in its application to tutorials" (1996:2). However, Web technology is evolving dramatically and some materials are beginning to use program languages, such as CGI Scripts, JavaScript and Java, which allow a higher level of interactivity. It is true that the problem of speed of interaction due to limited bandwidth still remains: "the delays of learner's click and the subsequent response (the system latency) can be disconcerting" (Bush, *loc.cit.*:2), if not tedious, depending on the Web system used. New technologies will soon solve these problems and language teachers will then be able to make highly interactive Web materials. Therefore, parameters by which to judge Web resources will also change since the technology will have evolved and our expectations will be more demanding.

Web technology has not yet reached the same level of maturity as multimedia technology, and so we must not fall into the trap of evaluating Web resources taking multimedia technology as the point of reference. Comparisons with other media cannot be the best way forward. What we need to judge is the medium itself as it is now, with all its limitations, in relation to the learner and the learning context. That said, however, evaluation procedures designed for printed material and CALL software were a source of inspiration in identifying possible evaluation criteria for language learning Web resources.

The Web provides a flexible medium for publishing language learning materials since it easily allows for revisions and updated versions. Through e-mail, for instance, an author can obtain direct feedback from learners and teachers on how they make use of his/her pages, and can improve them accordingly without going through the painful re-editing of printed material. In that sense, the very dynamic nature of the Web calls for formative evaluations, of which the Web author can easily take advantage.

On the other hand, the fact that the Web is a continually evolving environment also poses problems in terms of the durability of the evaluations. For instance, once a site has been evaluated it has a "sell-by date" since the author could implement changes after receiving feedback from the users, so making the evaluation no longer valid; or even worse, an evaluation of a site might have been posted minutes before an updated version of that site is going online. This underlines the fact that evaluation of Web resources has to be understood as an ongoing process.

Evaluation, in the educational setting, is sometimes perceived as a threatening procedure and always has the potential to be controversial. The main reason for this is that when evaluating we are judging against specific criteria which are based on the evaluators' own approach to, in our case, CALL, and on their own learning context. These may not necessarily agree with one's particular beliefs and situation. Thus, the evaluation framework stated below is determined by the context of the evaluation which is being implemented. However, with this in mind, we have attempted to identify criteria as comprehensible and universal as possible for the majority of CALL situations.

3. Ewebuation framework

The following framework is intended to outline the purpose and method of the evaluation process. This will allow anyone involved in the evaluation and anyone reading it to be clear about issues of why, what, who and how.

3.1 Objectives

The main objectives were:

- to start a process which is desperately needed due to the wealth of information available, some of which is a "tremendous amount of garbage - sites that are redundant, disconnected, unprofessional, irrelevant" (Green 1997:256).
- to make learners and teachers realise that Web resources need to be looked at critically.
- to assist learners and teachers to evaluate their quality

and ultimately:

- to motivate discussion in the profession in order to improve the quality of the language resources on the Web.

3.2 The evaluators

Traditionally, evaluations of materials are carried out either by teachers, e.g. when selecting appropriate textbooks or software for their learners, or by students, e.g. at the end of the course. The Web allows for a more co-operative kind of evaluation where both learners and teachers can work together.

In our case, both teachers' and learners' points of view are taken into consideration in order to give a more coherent and balanced evaluation. Each party is actively engaged in the evaluation process more

or less at the same time. Both will answer the same questions so that it will make it easier to analyse them statistically. This does not mean that we are unaware that learners and teachers have different interests and different experiences. However, these will be reflected in their answers and thus possible differences spelled out. In that sense we could later study the reasons and consequences for those differences. Other positive reasons for involving students are that the evaluation procedure could develop learners' critical thinking and reasoning skills, and may also be a means of increasing their awareness of what is useful for them as language learners and be, thereby, a form of learner training.

IALS Modern Language learners are adult students with various professions, e.g. teachers, university students, lawyers, secretaries, bank clerks, etc. and usually highly motivated. They have a two-hour language session once a week for three terms, which means 66 hours per academic year. Age ranges from 18 to over 70. Students who took part in the project were volunteers from Beginners to Advanced, most of whom were computer-literate, with some experience in using the Web.

3.3 The Web resources

We are evaluating Spanish learning related Web sites indexed into the following sections:

- **Lessons:** Sites designed to teach Spanish, mainly courses and tutorials.
- **Practice:** Web sites designed to provide practice on different language skills or language systems.
- **Reference:** i.e. dictionaries, grammars, vocabulary lists, etc.

The difference between the first two categories is sometimes blurred since some courses are designed focusing mainly on one aspect of language learning. Besides, their main objective is the same: to provide an environment through which the learner can improve his/her language skills. The difference of classification is one of emphasis and structure. The first section covers sites more related to the traditional structure of a textbook, generally integrating different aspects of language learning, whereas the second includes sites designed specifically to tackle one aspect of language learning.

3.4 Criteria

What is it that makes a 'good practice' language learning Web site? The first step is to identify clearly the criteria by which we judge whether a Web site is very good, acceptable or bad. Any evaluation should be undertaken according to certain guiding principles using carefully defined criteria. However, when faced with a new medium, identifying the criteria is not an easy task since the designer and the user are inexperienced and still experimenting on how best to use it.

One of the priorities when developing the criteria was to restrict these to the essential and the very general. It was perceived that identifying lots of detailed criteria was not going to assist the evaluators but confuse them. The different criteria identified for the evaluation are:

CRITERION 1: **Quality and usefulness of the material**

This criterion refers to forming judgements about how valuable for one's learning process the resource on the Web is. We need to consider to what extent the purpose of the site meets the learners' needs.

CRITERION 2: **Coverage**

This criterion deals with the depth and breadth of the content provided. The main issue to be considered is the level of detail the resource provides. This should be appropriate and balanced for the purpose of the Web site and its intended user. It should be made clear that more does not necessarily mean better.

CRITERION 3: **Userfriendliness**

The usability of a Web site is dependent on how well it is designed following basic instructional design standards. This criterion deals with the aesthetics of the design, the structure and organisation of the resource and the navigation of the content, i.e. how easily the resource can be explored.

CRITERION 4: **Motivating**

This criterion is concerned with how engaging a Web site is and thereby deals with the affective dimension of the learning process.

CRITERION 5: **Promoting active learning**

This criterion is related to the concept of interactivity. In the computer world interactivity is understood as simply clicking a link or selecting an option. In that sense, most resources on the Web are "interactive" in that the user can decide what to see and where to go. In an educational setting, however, the concept of interactivity should go beyond this. An educational interactive resource should require some sort of output on the part of the user. In that respect, our definition coincides with that of Lafford *et al.*, (1997:221) : "*interactive* refers to an interactivity that requires oral or written production in the target language". In order not to confuse the evaluators, the criterion was entitled "promoting active learning", which means that learners should have an opportunity to receive input and produce output in the target language. This criterion is thought to be essential for the development of pedagogically sound language Web resources.

CRITERION 6: **Feedback**

This criterion is reserved for resources which provide tasks and/or exercises. It deals with the quality of the feedback provided, if any.

Because of the language learning Web site categories' differing functions, the **Lessons** and **Practice section** are evaluated following the 6 criteria, whereas the criteria assigned to sites in the **Reference section** are restricted to the first three. For instance, an online dictionary is rated by taking into account its quality, coverage and usability. Though some learners could find dictionaries motivating (criterion 4), it could be said that an online dictionary's aim is not to motivate learners to learn a language, but simply one of support and reference.

To assist the evaluators to clarify the meaning of each criterion and avoid possible misunderstandings, a handout with explanations was provided. Under each criterion open questions were outlined in order to make the evaluators reflect upon different aspects that characterise the corresponding criterion (see Appendix I). These questions serve as indicators of quality.

3.5 Procedure

The Ewe*b*uation project was conducted in five stages, as described below:

The first stage was to draw up a list of Web sites that might be useful for our students.

The second stage was to classify them in a way that was clear for the learner (see 3.3), and to design the Web page with the links to these sites.

The third stage was the preparation for the evaluation, i.e. thinking about and designing an evaluation procedure to rate language Web sites. The evaluative procedure chosen was a questionnaire which reflects the criteria stated. The evaluator had to rate each criterion on a 5-point scale, from excellent to poor, for each site. This questionnaire was intended to be online but for technical reasons and due to time constraints it had to be administered using handouts (see Appendix II).

The fourth stage was to collect the data. A special week was organised for volunteer students to come along and take part in the project. Some decided that they wanted to take part but preferred to do it in their own time since they had access to the Web. These learners returned answered questionnaires by post. Teachers were briefed about the project on an individual basis and evaluated the Web sites in their own time. To make the data relevant at this stage, evaluators were asked to concentrate on seven specific sites. Learners and teachers filled in the questionnaires and submitted their responses.

The last stage was to process the data statistically in order to rate the resources. This process resulted in the awarding of a number of stars to the different Web sites evaluated: ranging from five for an excellent Web site to one for poor Web sites. The overall score is obtained by averaging the learners' and the teachers' scores on each criterion. To see details of the score awarded to a site, a user can click on the star(s) next to the link and will obtain the averages for each criterion together with the teachers' and learners' respective comments.

As mentioned before, stages 4 and 5 were intended to be carried out online. In future, the evaluators will complete the questionnaire and submit it online and the data will be processed automatically. Some CGI programs using Perl 5.0 have been designed in order to achieve this.

3.5.1 Technical features

As far as programming is concerned, the site is divided into three main interconnected areas:

- **Output Area:**

The evaluation Web pages are generated by CGI Scripts. These pages are created with stars which rate the quality of the sites provided. Input via the questionnaire dynamically updates these Web pages.

- **Input Area:**

The questionnaire information is entered by the evaluators into a Web form which uses CGI Scripts to place the data in the associated databases. This information is later used by the output section to form the rating of the evaluated sites and by the administration section from which the data can be edited.

- **Administration Area:**

This section is divided into three parts: one that allows the addition of a new link, creating a *site database* (or adding to an existing one), and the second where the CGI scripts search the data in the databases presenting it in a form for editing and manipulating.

The last part involves security and has two aspects. The first is that the site is protected by passwords, one for the students, another for the teachers and also one for the administrator. This security measure stops (intentional or accidental) changes to 'volatile' data, e.g. a student inadvertently deleting a site

in the administration area. The second part entails checking all the links in the databases for broken, missing or moved linked pages.

The technical solutions to some of the problems that arise from the complexity of evaluating a Web site are shown below:

Problem	Technical solution
Only one evaluation is not representative enough	Evaluation is counted but stars are not shown in total score. Minimum of 5 students and 3 teachers
Outdated evaluations	User can see when the evaluation was carried out
Radical modification of a Web site	Send a message alerting to changes
URL moved	Send a message alerting that URL moved
Hacking	Password protected
Different ratings to be considered: 6 criteria 5 criteria: Sites without feedback 3 criteria: Reference sites	Identify differences and apply statistical analysis accordingly.
Learners' level biased	Indication of level of learners on the comments section

4. Evaluating Evaluation

This project has, to a large extent, met successfully the first three objectives stated in 3.1. Five teachers took part in the evaluation, most of whom completed all the questionnaires. They have a lot of experience as language teachers but had only basic knowledge about the Web as a resource for language learning. This project helped them to realise the potential of the Web as a learning/teaching tool.

Learners' response was fairly positive. Out of 300 students of Spanish, 70 initially expressed interest in taking part. 31 came to the evaluation week to take part in the project and 25 asked for the questionnaires to be sent, 12 of whom sent them back. Some students managed to evaluate the seven sites requested, others just evaluated as many as possible in the time they had available.

None of the students or teachers reported difficulty in understanding the criteria, and all thought it was an excellent idea of which they could take advantage. Most of them praised the clear design of the Web pages.

Problems of full functionality of some sites encountered by some evaluators at certain times forced their evaluations of those sites to be postponed. Learners at home who did not have multimedia facilities could not fully evaluate some of the sites.

5. Conclusion and future possibilities

In general terms the positive feedback received so far confirms that at least we are starting off on the right foot. There are still problems to be solved and aspects to be improved. The criteria stated in the framework, for instance, should be validated by an external panel of evaluators so that they could be applied to a more extensive context. These could, then, be reviewed and re-adjusted, e.g. add more criteria not accounted for or simply more indicators under each criterion. Evaluation is seen as just

the beginning of an ongoing project that is much needed by language learners and teachers world-wide.

In that respect, other universities may be interested in adopting a similar model, and some national or international organisations, such as the CTI in the UK or EUROCALL, may consider a project of this kind on a more universal level. What is clear is that we cannot assist our learners and teachers by just simply providing a collection of links of what is available on the Web. This could be easily achieved by the numerous search engines already available. Language centres, university departments and international organisations, apart from providing advice on how to exploit the Web, should offer further specific information in the form of reviews or rating systems that reflect 'good practice' language learning Web sites.

I hope that the evaluation model presented here will stimulate constructive discussion and have a positive washback effect which ultimately may contribute to the improvement of the present Web sites and possibly the development of a set of guidelines for the design of future quality language learning Web sites.

Notes

1. This paper was presented at the EUROCALL 97 Conference in Dublin.

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NB. It is impossible to guarantee that the URLs provided in this paper are still correct on publication.

APPENDIX 1

EVALUATING SPANISH WEBSITES
Instructions on How to Fill the Questionnaire

The following are some of the points you have to consider before you fill in each category.

Remember to answer all the questions for the sections Lessons and Practice, taking into account that question 6 is only appropriate when there are exercises to do on the website.

For the section *Reference* you ONLY have to answer the first 3 questions.

Criteria and Questions:

1. **Quality and usefulness of the material:**

   - Does the material provide a valuable aid to language learning?
   - Is the information appropriate for what you expect to find on the website?
   - Is there useful information to make the site worthwhile visiting?

2. **Coverage**

   - Is there enough information provided?
   - Is there so much that it is impossible to assimilate or manage?

   Dictionary: did you find the words you looked up or is it somehow limited?

3. **User-friendliness**

   - Design: Is the design of the website attractive?
   - Instructions: Are the instructions clear and comprehensible?
   - Organisation: Is the website well-organised?
   - Navigation: Can you move from page to page without getting lost or confused?
   - Speed: Does the page downloads efficiently?

4. **Motivating**

   Does the website:

   - present material in a way that holds attention?
   - stimulate interest in the subject?
   - encourage learning and study?

5. Promoting active learning

Does the website ask or prompt the user to:

- do something (i.e. do some exercises, reply...)?
- take part in some way?
- interact with somebody else (i.e. author or other students)?

6. Feedback (only when there are exercises)

- Is the feedback provided helpful?
- Is a more clear or in-depth explanation necessary?

You may make any additional comments about the website in the space provided.

Remember that if you feel that you are unable to evaluate a website for any reason you can indicate this on the questionnaire sheet.

If you have any problem, e-mail: **J.Pujola@ed.ac.uk**

Thank you for your co-operation.

APPENDIX II

Ewebuation Questionnaire - Students / Teachers*

This form gives you an opportunity to indicate your opinion to the learning value of the Spanish links provided. Please consider each question separately, without letting your overall impression to the material blind you to particular areas of the site's strengths or weaknesses. For each question, choose the response that best reflects your personal opinion.

Please select the name of the site being evaluated here:

_____

	excellent	very good	satisfactory	poor	very poor
1. Quality and usefulness of the material:					
2. Coverage:					
3. Userfriendliness:					
4. Motivating:					
5. Promoting active learning:					
6. Feedback: (only when there are EXERCISES)					

Please add any comments you might have:

☐ I was unable to evaluate the site because _____

_____

Which level are you studying at IALS? _____

* **N.B.** The **teachers' questionnaire** was the same as learners' except for the section after the comments which only included the following question:

Which level(s) at IALS would you recommend this site for? _____